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मानक

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“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

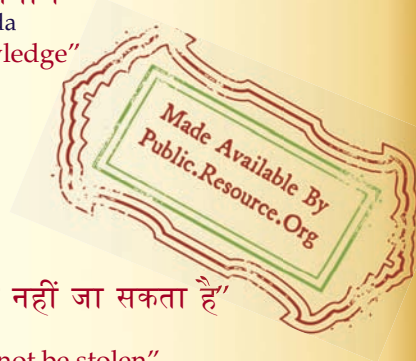
IS 8271-2-8 (1982): Quartz Crystal Units Used for Frequency Control and Selection, Part 2: Series AA for Oscillators, Section 8: Quartz Crystal Unit Type AA-08 [LITD 5: Semiconductor and Other Electronic Components and Devices]



“ज्ञान से एक नये भारत का निर्माण”

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“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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Indian Standard

(Reaffirmed 2006)



SPECIFICATION FOR
QUARTZ CRYSTAL UNITS USED FOR FREQUENCY
CONTROL AND SELECTION

PART II SERIES AA FOR OSCILLATORS

Section 8 Quartz Crystal Unit Type AA-08

- 0. General** — This standard shall be read in conjunction with IS : 8271 (Part I)-1981 ' Specification for quartz crystal units used for frequency control and selection: Part I General requirements and tests (first revision) '.
- 1. Outline and Dimensions** — Holder outline shall conform to Type AA (see Sheet 1A of IS : 4570-1968 Specification for crystal holders).
- 2. Marking** — See 8 of IS : 8271 (Part I)-1981.
- 3. Construction and Workmanship** — See 7 of IS : 8271 (Part I)-1981.
- 4. Test Schedule and Detail Requirements**
- 4.1 General Conditions for Test** — See 9.2 of IS : 8271 (Part I)-1981.
- 4.2 Test Schedule** — The sequence and grouping of type, routine and acceptance tests shall be as per 9.1 of IS : 8271 (Part I)-1981.
- 4.3 Detail Requirements** — The detail requirements applicable to this particular type of crystal unit shall be as specified in Table 1.

TABLE 1 DETAIL REQUIREMENTS OF QUARTZ CRYSTAL UNIT TYPE AA-08

(Clause 4.3)

SI No.	Characteristic	Requirements
(1)	(2)	(3)
i)	Type of holder	AA (see 1)
ii)	Frequency range	10 to 60 MHz
iii)	Frequency tolerance: Over operating temperature range	± 30 ppm
iv)	Resonance resistance	40 Ohms, <i>Max</i>
v)	Mode of oscillation	Third overtone
vi)	Load capacitance	Infinity (series)
vii)	Capacitance shunt	7 pF, <i>Max</i>
viii)	Operating temperature range	-20°C to $+70^{\circ}\text{C}$
ix)	Test set, calibration values and rated drive level	See Table 2
x)	Shock [as per 9.15 (Severity A) of IS : 8271 (Part I)-1981] :	
	a) Frequency change permitted	± 5 ppm
	b) Resonance resistance change permitted	± 10 percent
xi)	Vibration [as per 9.16.1 (Severity A) of IS : 8271 (Part I)-1981] :	
	a) Frequency change permitted	± 5 ppm
	b) Resonance resistance change permitted	± 10 percent
xii)	Temperature cycling:	
	a) Frequency change permitted	± 5 ppm
	b) Resonance resistance change permitted	± 10 percent
xiii)	Temperature run:	
	a) Frequency change permitted	± 5 ppm
	b) Resonance resistance change permitted	± 10 percent
xiv)	Ageing Frequency change permitted	5 ppm

TABLE 2 TEST SET, CALIBRATION VALUES AND RATED DRIVE LEVEL

[Table 1, Item (ix)]

SI No.	Frequency Range	Calibration Values		Rated Drive Level
		Resistance	Resistor Voltage Drop	
	MHz	Ohms	Volts	mW
(1)	(2)	(3)	(4)	(5)
i)	From 10 to 15	60	0.49	4.0 ± 0.8
ii)	Over 15 to 25	40	0.40	4.0 ± 0.8
iii)	Over 25 to 60	40	0.28	2.0 ± 0.4

For SI No. (i) to (iii) — Test Set TS 683/TSM.